



**NEW ENGLAND
COMMON ASSESSMENT PROGRAM**

**Released Items
2011**

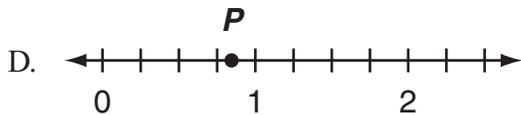
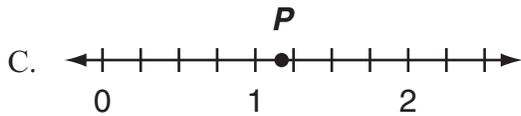
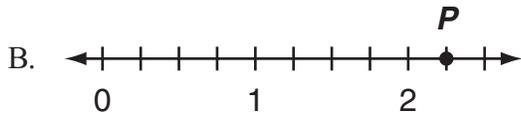
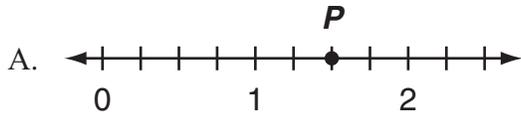
**Grade 7
Mathematics**

Mathematics



Items with this symbol were selected from Session One—no calculators or other mathematics tools allowed.

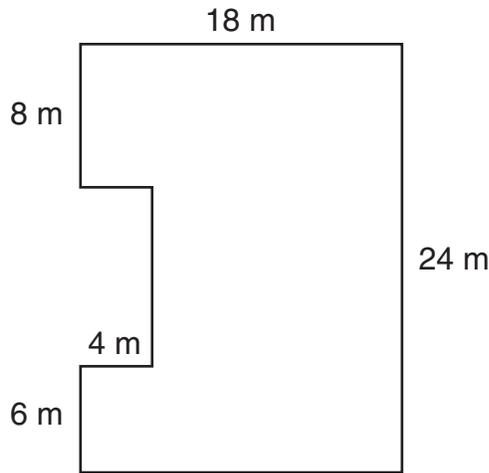
1 On which number line is point P closest to 1.2?



2 Which statement is true about **all** prisms?

- A. The number of edges is an odd number.
- B. The number of edges is an even number.
- C. The number of vertices is an odd number.
- D. The number of vertices is an even number.

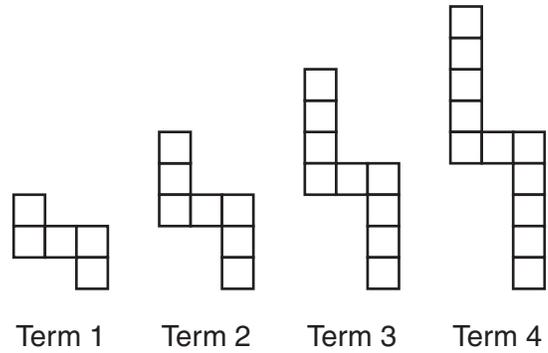
- 3 Look at this figure.



What is the perimeter of this figure?

- A. 96 meters
 B. 92 meters
 C. 78 meters
 D. 60 meters
- 4 The Old Faithful geyser in Yellowstone National Park erupts approximately every 74 minutes. Based on this information, about how many times does Old Faithful erupt in one 24-hour day?
 [1 hr = 60 min]
- A. 3
 B. 14
 C. 20
 D. 30

- 5 This pattern was made with square tiles.



Which expression represents the number of square tiles in the n th term?

- A. $3n$
 B. $5n$
 C. $2n + 3$
 D. $3n + 2$
- 6 This table shows the total shipping costs for objects of different weights.

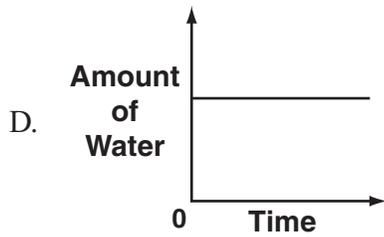
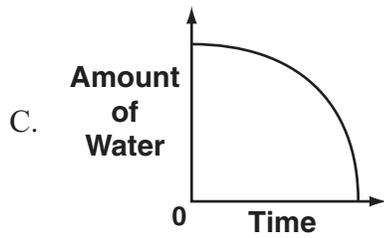
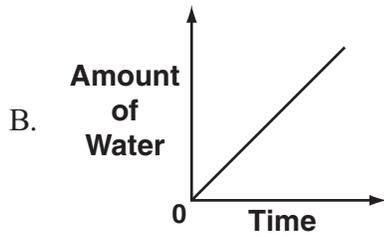
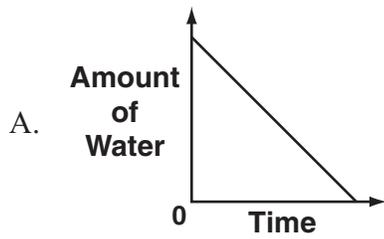
Shipping Costs

Weight of Object (in pounds)	Total Shipping Cost (in dollars)
4	5
8	11
12	17
16	23

Based on the information in the table, by how many dollars does the total shipping cost increase if the weight of an object increases by 1 pound?

- A. \$1.25
 B. \$1.50
 C. \$3.00
 D. \$6.00

- 7 Water from a faucet is filling a bucket at a constant rate. Which graph could show the amount of water in the bucket as it fills?



- 8 What is the value of this expression when $x = 5$?

$$2 + 3x - 4$$

- A. 4
B. 6
C. 13
D. 21



- 9 Luis wrote this expression.

$$3 + 4 \cdot (5 + 6)$$

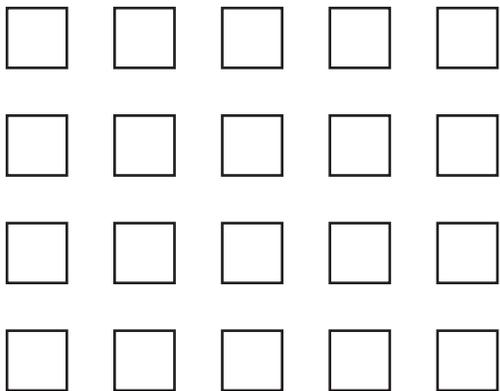
Which of the following expressions is equivalent to Luis's expression?

- A. $7 \cdot 5 + 6$
- B. $3 + 20 + 6$
- C. $7 \cdot 11$
- D. $3 + 4 \cdot 11$

- 10 In five basketball games Terry scored 24, 26, 10, 25, and 30 points. In how many of the games did Terry score more than his mean number of points?

- A. 2
- B. 3
- C. 4
- D. 5

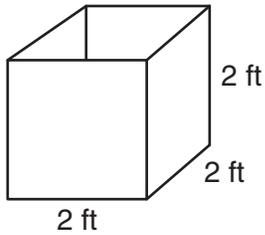
- 11 This picture shows the number of desks in Mr. Moore's classroom. In one of Mr. Moore's classes, students were seated at 3 out of every 4 desks.



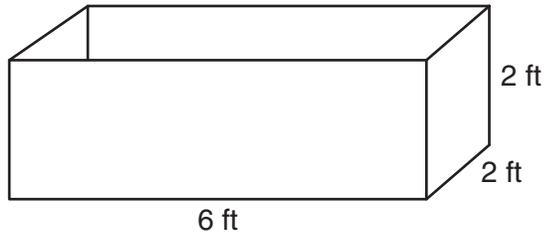
How many students were seated at desks in Mr. Moore's class?

- 12 A mechanic charges \$80 for a new muffler and \$35 per hour to install the muffler. Write an algebraic expression to represent the total number of dollars that the mechanic charges for a new muffler and h hours to install it.

- 13 Look at Box P and Box Q.



Box P



Box Q

Andy fills each box with 1-foot cubes.

How many **more** 1-foot cubes will fit into Box Q than into Box P? Show your work or explain how you know.

- 14 A hat contains 24 pieces of paper. Each piece of paper has the name of a student on it. When one piece of paper is chosen at random, the probability that it has a girl's name is $\frac{3}{8}$.

How many girls' names are in the hat? Show your work or explain how you know.



- 15 Kevin will give one energy bar and one map to each runner in a race.
- He buys energy bars in boxes. There are 6 energy bars in each box.
 - He buys maps in packages. There are 50 maps in each package.

- a. How many boxes of energy bars would Kevin need if 125 runners enter the race?
- b. How many packages of maps would Kevin need if 125 runners enter the race?

On the day of the race, more than 125 runners enter.

- c. What is the fewest number of runners that Kevin could give one energy bar and one map to without having any open boxes of energy bars or open packages of maps left over? Show your work or explain how you know.